

Material Safety Data Sheet

Page 1 of 9

Product Name: UNiPACK See-Through Self Seal Sterilization Pouch
Material Description: Water Based Flexographic Ink for Steam/Chemiclave Sterilization Process
Revision Date: 05/11/2009

1. Product and Company Description

UNiPACK Medical Corporation
6227 Randolph Street
Commerce, CA 90040
U.S.A
(323) 728 - 6292

2. Chemical Composition

Component/CAS #	Symbol	Risk Phrases	EC #	%
Non-Hazardous Ingredients	None	None	None	70-80
Copper Compound 7440-50-8	None	None	231-159-6	10-15
Barium Compound 7440-39-3	None	None	231-149-1	10-15
Glycol Ether 107-98-2	None	R:10	203-539-1	5-10
Titanium Dioxide 13463-67-7	None	None	215-282-2	1-5

3. Hazards Identification

A. Emergency Overview:

Information Pertaining To Particular Dangers For Man And Environment:

Classification: This preparation is not classified as hazardous according to the latest adaptations of European Union Directives 67/548/EEC and 1999/45/EC.

Physical Appearance:

Ink with characteristic odor.

B. Potential Health Effects:

Acute Eye:

May cause irritation.

Material Safety Data Sheet

Acute Skin:

May cause irritation.

Acute Inhalation:

May be irritating to respiratory tract.

Acute ingestion:

Not considered a route of exposure under anticipated use conditions. May cause irritation to the digestive tract if ingested.

Medical Conditions Generally Aggravated by Exposure:

Not Determined.

4. First Aid Measures

First Aid Measures for Accidental:

Eye Exposure:

Immediately flush eyes with copious amounts of water for 15 minutes while holding eyelids apart. If irritation develops, SEEK MEDICAL ATTENTION.

Skin Exposure:

Wash skin with soap and water. If pain or irritation persists, obtain medical attention.

Inhalation:

Move to fresh air. If not breathing, administer artificial respiration. If breathing is difficult, give oxygen. SEEK MEDICAL ATTENTION.

Ingestion:

Seek immediate medical attention.

5. Fire Fighting Measures

Fire Hazard Data:

Autoignition: NA

Flash Point: NA

Flammability Limits (vol/vol%): Lower: Upper:
NA NA

Extinguishing Media:

Use extinguishing media appropriate for surrounding fire.

Special Fire Fighting Procedures:

Use self contained breathing apparatus with full face mask.

Unusual Fire and Explosion Hazards:

None

Material Safety Data Sheet

6. Accidental Release Measures

Cleanup and Disposal of Spill:

Pick up spill using absorbent material and hold in container for disposal. Discard any product, residue, disposable container or liner in full compliance with federal, state, and local regulations.

7. Handling and Storage

Handling/Storage:

Avoid contact with skin, eyes and clothing. Keep in a tightly closed container, stored in a cool, dry, well ventilated area.

8. Exposure Controls / Personal Protection

Exposure Guidelines:

Copper	Occupational Exposure Limit
US ACGIH	0.1 mg/m ³ TWA (inhalable fraction); A4 - not classifiable as a human carcinogen; TLV basis: lower respiratory tract irritation, metal fume fever; withdraw documentation and adopted TLV (dust, fume and mists)
US OSHA	0.1 mg/m ³ TWA (fume); 1 mg/m ³ TWA (dust and mist)
Austria	1 mg/m ³ MAK (inhalable fraction); 0.1 mg/m ³ MAK (respirable fraction, smoke) 4 mg/m ³ STEL (inhalable fraction); 0.4 mg/m ³ STEL (respirable fraction)
Belgium	0.2 mg/m ³ VLE (fume); 1 mg/m ³ VLE (dust and mist)
Czech Republic	2 mg/m ³ Ceiling (dust); 0.2 mg/m ³ Ceiling (fume) 1 mg/m ³ TWA (dust); 0.1 mg/m ³ TWA (fume)
Denmark	1.0 mg/m ³ TWA (dust and powder); 0.1 mg/m ³ TWA (fume, as Cu)
Estonia	1 mg/m ³ TWA (total dust); 0.2 mg/m ³ TWA (respirable dust)
Finland	1 mg/m ³ TWA; 0.1 mg/m ³ TWA (respirable dust and fume, as Cu)
France	2 mg/m ³ VLCT (dust, as Cu) 0.2 mg/m ³ VME (fume); 1 mg/m ³ VME (dust, as Cu)
Germany	0.2 mg/m ³ Peak (inhalable fraction) 0.1 mg/m ³ MAK (inhalable fraction)
Greece	2 mg/m ³ STEL (dust) 0.2 mg/m ³ TWA (fume); 1 mg/m ³ TWA (dust)
Hungary	4 mg/m ³ STEL; 0.4 mg/m ³ STEL (fume) 1 mg/m ³ TWA; 0.1 mg/m ³ TWA (fume)
Ireland	2 mg/m ³ STEL (dust and mist) 0.2 mg/m ³ TWA (fume); 1 mg/m ³ TWA (dust and mist)
Latvia	1 mg/m ³ STEL 0.5 mg/m ³ TWA
Lithuania	1 mg/m ³ IPRV (inhalable fraction); 0.2

Material Safety Data Sheet

Copper	Occupational Exposure Limit
	mg/m ³ IPRV (respirable fraction)
Netherlands	0.2 mg/m ³ MAC (smoke); 1 mg/m ³ MAC (dust)
Portugal	0.2 mg/m ³ TWA (fume); 1 mg/m ³ TWA (dust and mist, as Cu)
Slovak Republic	2 mg/m ³ Ceiling (dust); 0.2 mg/m ³ Ceiling (fume) 1 mg/m ³ TWA (dust); 0.1 mg/m ³ TWA (fume)
Slovenia	4 mg/m ³ STEL (inhalable fraction); 0.4 mg/m ³ STEL (respirable fraction) 1 mg/m ³ TWA (inhalable fraction); 0.1 mg/m ³ TWA (respirable fraction, fume)
Spain	0.2 mg/m ³ VLA-ED (fume); 1 mg/m ³ VLA-ED (dust and mist, as Cu)
Sweden	1 mg/m ³ LLV (total dust); 0.2 mg/m ³ LLV (respirable dust)
United Kingdom	0.6 mg/m ³ STEL (fume); 2 mg/m ³ STEL (dust and mist) 0.2 mg/m ³ TWA (fume); 1 mg/m ³ TWA (dust and mist)

Barium	Occupational Exposure Limit
US ACGIH	0.5 mg/m ³ TWA
US OSHA	None
Belgium	0.5 mg/m ³ VLE
Denmark	0.5 mg/m ³ TWA
Finland	0.5 mg/m ³ TWA
Netherlands	0.5 mg/m ³ MAC
Poland	1.5 mg/m ³ NDSh 0.5 mg/m ³ NDS
Portugal	0.5 mg/m ³ TWA
Spain	0.5 mg/m ³ VLA-ED

Titanium Dioxide	Occupational Exposure Limit
US ACGIH	10 mg/m ³ TWA
US OSHA	15 mg/m ³ TWA (total dust)
Austria	6 mg/m ³ MAK (respirable fraction)
Belgium	10 mg/m ³ VLE
Denmark	6 mg/m ³ TWA (as Ti)
Estonia	5 mg/m ³ TWA
France	10 mg/m ³ VME (as Ti)
Germany	1.5 mg/m ³ MAK (respirable fraction)
Greece	10 mg/m ³ TWA (inhalable fraction); 5 mg/m ³ TWA (respirable fraction)
Ireland	10 mg/m ³ TWA (total inhalable dust); 4 mg/m ³ TWA (respirable dust)
Latvia	10 mg/m ³ TWA

Material Safety Data Sheet

Titanium Dioxide	Occupational Exposure Limit
Lithuania	5 mg/m3 IPRV
Netherlands	10 mg/m3 MAC
Poland	10.0 mg/m3 NDS (total inhalable dust containing <2% free crystalline silica and containing no asbestos)
Portugal	10 mg/m3 TWA
Spain	10 mg/m3 VLA-ED
Sweden	5 mg/m3 LLV (total dust)
United Kingdom	30 mg/m3 STEL (total inhalable); 12 mg/m3 STEL (respirable) 10 mg/m3 TWA (total inhalable); 4 mg/m3 TWA (respirable)

Glycol Ether	Occupational Exposure Limit
US ACGIH	150 ppm STEL 100 ppm TWA
US OSHA	None
Austria	50 ppm ceiling; 187 mg/m3 ceiling 50 ppm MAK; 187 mg/m3 MAK
Belgium	150 ppm VLE; 568 mg/m3 VLE 100 ppm VLE; 375 mg/m3 VLE
Bulgaria	568.0 mg/m3 STEL
Cyprus	150 ppm STEL; 568 mg/m3 STEL 100 ppm TWA; 375 mg/m3 TWA
Czech Republic	550 mg/m3 Ceiling 270 mg/m3 TWA
Denmark	50 ppm TWA 50 ppm TWA; 185 mg/m3 TWA
Estonia	150 ppm STEL; 568 mg/m3 STEL 100 ppm TWA; 375 mg/m3 TWA
Finland	150 ppm STEL; 560 mg/m3 STEL 100 ppm TWA; 370 mg/m3 TWA
France	150 ppm VLCT; 568 mg/m3 VLCT 100 ppm VME; 375 mg/m3 VME
Germany	200 ppm Peak; 740 mg/m3 Peak 100 ppm MAK; 370 mg/m3 MAK
Greece	300 ppm STEL; 1080 mg/m3 STEL 100 ppm TWA; 360 mg/m3 TWA
Hungary	568 mg/m3 STEL 375 mg/m3 TWA
Ireland	100 ppm STEL; 368 mg/m3 STEL; 300 ppm STEL (regulated under Propylene glycol monomethyl ether); 1080 mg/m3 STEL (regulated under Propylene glycol monomethyl ether) 50 ppm TWA; 184 mg/m3 TWA; 100 ppm TWA (regulated under Propylene glycol monomethyl ether); 360 mg/m3 TWA (regulated under Propylene glycol monomethyl ether)
Italy	150 ppm STEL; 568 mg/m3 STEL 100 ppm TWA; 375 mg/m3 TWA
Latvia	150 ppm STEL; 568 mg/m3 STEL 100 ppm TWA; 375 mg/m3 TWA
Lithuania	150 ppm TPRV; 568 mg/m3 TPRV; 75 ppm TPRV (regulated under Propylene

Material Safety Data Sheet

Glycol Ether	Occupational Exposure Limit
	glycol monomethyl ether); 300 mg/m ³ TPRV (regulated under Propylene glycol monomethyl ether) 100 ppm IPRV; 375 mg/m ³ IPRV; 50 ppm IPRV (regulated under Propylene glycol monomethyl ether); 190 mg/m ³ IPRV (regulated under Propylene glycol monomethyl ether)
Luxembourg	150 ppm STEL; 568 mg/m ³ STEL 100 ppm TWA; 375 mg/m ³ TWA
Malta	150 ppm STEL; 568 mg/m ³ STEL 100 ppm TWA; 375 mg/m ³ TWA
Netherlands	100 ppm MAC; 375 mg/m ³ MAC
Poland	360 mg/m ³ NDSh 180 mg/m ³ NDS
Portugal	150 ppm STEL 100 ppm TWA
Slovak Republic	568 mg/m ³ Ceiling 100 ppm TWA; 375 mg/m ³ TWA
Slovenia	150 ppm STEL; 562.5 mg/m ³ STEL 100 ppm TWA; 375 mg/m ³ TWA
Spain	150 ppm VLA-EC; 568 mg/m ³ VLA-EC 100 ppm VLA-ED; 374 mg/m ³ VLA-ED
Sweden	75 ppm STV; 300 mg/m ³ STV 50 ppm LLV; 190 mg/m ³ LLV
United Kingdom	150 ppm STEL; 560 mg/m ³ STEL 100 ppm TWA; 375 mg/m ³ TWA

Engineering Controls:

Ventilation must be adequate to maintain the ambient workplace atmosphere below the exposure limit(s) outlined in the MSDS. Use local exhaust ventilation when handling this product.

Respiratory Protection:

Follow the OSHA respirator regulations found in 29CFR 1910.134 or European Standard EN 149. Always use a NIOSH or EN approved respirator when necessary.

Eye / Face Protection:

If eye contact while using product may be anticipated, wear appropriate safety glasses with side shields or chemical goggles as described by OSHA's eye and face protection regulations in 29CFR 1910.133 or European Standard EN166.

Skin Protection:

Wear chemical resistant gloves (such as latex or neoprene) and protective clothing to minimize skin contact.

9. Physical and Chemical Properties

Physical State:	Liquid Ink
Odor:	Characteristic
pH:	ND
Specific Gravity:	1.203
Water Solubility:	Partial
Melting Point:	NA
Freezing Point	ND

Material Safety Data Sheet

Page 7 of 9

Boiling Point: 212 F
Vapor Pressure: 18 @ 20 C
Vapor Density: 0.6
Percent Volatiles by Volume: 85
Viscosity: ND
Molecular Weight: ND
Volatile Organic Compounds (VOC): 0.576 lbs/gal

10. Stability and Reactivity

Chemical Stability:

Stable

Conditions to Avoid:

None

Materials / Chemicals to Be Avoided:

Not Determined

Hazardous Decomposition Products:

If heated to decomposition may emit oxides of carbon and other toxic compounds.

Hazardous Polymerization:

Will not occur.

11. Toxicological Information

Carcinogenicity:

NTP: NO

IARC: NO

OSHA: NO

Toxicity data for Titanium Dioxide:

Oral LD50 Rat: >10000 mg/kg

Toxicity data for Glycol Ether:

Inhalation LC50 Rat: 54.6 mg/L/4H; Inhalation LC50 Rat: >24 mg/L/1H; Oral LD50 Rat: 5200 mg/kg;

Dermal LD50 Rabbit: 13000 mg/kg

12. Ecological Information

Ecotoxicological Information:

Not Determined

13. Disposal Considerations

Waste Disposal Method:

Discard any product, residue, disposable container or liner in full compliance with national regulations.

Material Safety Data Sheet

Container Handling and Disposal:

Dispose of container and unused contents in accordance with national regulations.

14. Transportation Information

Shipping Name:

ADR/RID/IMO/ICAO /US DOT	Proper Shipping Name	Not Regulated
	Hazard Class	Not Regulated
	ID Number	Not Regulated
	Packaging Group	Not Regulated

15. Regulatory Information

U.S. Federal Regulations:

SARA Title III Hazard Classes:

Fire Hazard: No
Reactive Hazard: No
Release of Pressure: No
Acute Health Hazard: No
Chronic Health Hazard: No

TSCA

All components of this product are on the TSCA inventory or are not required to be listed.

Other Regulations:

U.S. State

None

European/International Regulations

EU Marking and Labeling

Symbol:

None

Risk Phrases:

None

Safety Phrases:

None

Inventory Information

EU

The substances in this preparation have been checked against the European Inventory of Existing Commercial Chemical Substances (EINECS), the European List of Notified Chemical Substances (ELINCS), and the No Longer Polymer (NLP) list. Substances not identified on these inventories are exempt.

Material Safety Data Sheet

16. Other Information

National Paint & Coating Hazardous Materials Identification System – HMIS(R):

Health Hazard: 1
Flammability: 0
Reactivity: 0

Text of R-Phrases in Section 2

Glycol Ether
R10: Flammable

Key Legend Information:

N/A – Not Applicable
ND – Not Determined
ACGIH – American Conference of
Governmental Industrial Hygienists
OSHA – Occupational Safety and Health
Administration
TLV – Threshold Limit Value

PEL – Permissible Exposure Limit
TWA – Time Weighted Average
STEL – Short Term Exposure Limit
NTP – National Toxicology Program
IARC – International Agency for Research on
Cancer
RTECS - Registry of Toxic Effects of Chemical
Substances

This information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees.